REMARKS/ARGUMENTS

Claims 21-28 are currently active.

Claim 28 has been added. Antecedent support for Claim 28 is found in Claims 21-25. The Examiner has indicated that Claim 25 would be allowable if rewritten in independent form with all the limitations of its base claim and any dependent claims. Claim 28 is written as such.

The Examiner has rejected Claims 21-24 and 26 and 27 as being anticipated by Jones. Applicant respectfully traverses this rejection.

Referring to Jones, there is disclosed a computer teleconferencing method and apparatus. Jones is directed to teleconferencing methods and apparatus wherein it is desired to communicate the video images and computer display images in one teleconference. See column 1, lines 5-10. Jones teaches that one common way to represent a color computer display image is as three monochromatic image signals, representative of the intensities at each point in the image of the colors red, green and blue. In order to convert the three color digital signals processed by the PC to analog form for input to a computer display monitor, a VGA card and a PC contains three digital to analog converters, one for each red, green and blue signals. The VGA card thus outputs three analog signals, one for the red, green and blue intensities comprising the image. A scan converter may contain three analog to digital converters used to convert the VGA signals to digital form for convenient processing and memory storage. The video compression unit may contain one or more analog to digital converters necessary to convert and de-interface a television signal for processing, memory and circuitry to compress and transmit the image. Thus,

using this arrangement, a PC display is twice converted to and from analog form. See column 2, lines 37-54. The technique taught by Jones is to obviate the need for this double conversion.

Jones teaches a VGA device driver produces upon command a snapshot image signal which is a single frame of the continuous computer display image signal controlling the computer display monitor, much like a television freeze frame image signal. An appropriately timed sequence of commands produces a sequence of snapshots, in which case the continuous computer display image signal is effectively captured and stored or for further processing in the PC. See column 6, lines 15-30. A snapshot module permits the PC operator to select the time sequence of the computer display image desired to be captured.

Jones teaches an aspect ratio of the selection rectangle is first computed. Then the aspect ratio of a target format standard television image is computed. A comparison is performed between the aspect ratio of the selection rectangle and the standard television image aspect ratio. If the result of the comparison is that the aspect ratios are within a predetermined tolerance of each other, then the rectangle selected is automatically adjusted by an arbitrary algorithm to have exactly the standard television image aspect ratio. If the comparison indicates that the aspect ratios are not within a predetermined tolerance of each other, further adjustment is desirable. Under similar conditions with respect to image height, similar steps are performed. Thus, the resulting rectangle having a height adjusted to match a standard television image is produced. See column 7, lines 1-18 and 30-35.

Jones teaches that two timing loops execute to provide the illusion of motion in the display image by periodically updating the television image signal transmitted to the remote site. Upon repeated execution of the first timing loop, a sequence of VGA image signals is converted

into a digital television signal. The process involves both resolution conversion and color conversion. The resolution and color conversion are both performed by one process, because the output television signal includes both an output from a signal representative of the color content of the image and an output luma signal representative of the brightness of the image, wherein the resolution of the output chroma signal and the resolution of the output luma signal differ from each other. It is desired that the perceived resolution of the VGA image be preserved in the output television signal to the greatest extent possible. This is accomplished by performing antialising by subsampling. A multi-tap filter carries out the desired antialiasing during the resolution conversion process. See column 8, lines 30-43.

Jones teaches that if the signal is to be decimated by a ratio, then the horizontal index and vertical index contain integers indicative of every nth pixel in every nth row. If the ratio is not a rational number, then there are different ratios for horizontal and vertical decimation. Next a pair of nested loops are performed to process all pixels in the image signal. The inner loop causes each pixel in a row which is pointed to by horizontal image horizontal index to be output. The outer loop causes each row pointed to by vertical index to be read for processing by the inner loop. See column 8, lines 50-65.

The resolution conversion process takes advantage of the limited number of colors generally found in useful VGA image signals. Rather than selecting an exact color match among the approximately 60 million output possibilities for each input color, the conversion process picks the closest one of a limited number predetermined color combinations. The predetermined color combinations are selected in such a manner that reasonable color accuracies maintain along with good contrast in the output television signal. See column 9, lines 1-9.

Unsampling is performed by a known generic resampling process. First, the variables of the process are initialized. The process is performed in a row by row basis. The subsequent steps of the process are perform for each output pixel in a row. The up sampling is then performed by producing multiple output pixels for each input pixel, while performing antialiasing filtering. In regard to downsampling, process variables are first initialized. Then, processing proceeds of a row by row basis, wherein the process steps are performed for each output pixel in a row. The weighting factors by which input pixels are multiplied, are quantized to a small subset of possible values. The downsampling is performed relatively quickly due to the use of lookup tables instead of multiply operations. See column 9, lines 23-45.

After a computer display image signal is captured and converted, it is divided into regions. Each of these regions is known as a group of blocks. Within each group of blocks for which a change is detected, cyclical redundancy checks may be computed for macro blocks, so as to identify which macro block has changed. By predetermining which portions of a digital image signal represent regions of the computer display image which have changed, the subsequent compression steps of the process are rendered more efficient. More of the compressed image signals may be allocated to those portions of the digital image signal which represent change regions than to those portions of a digital image signal which are static. See column 9, lines 48-66.

Claim 21 of applicant, as amended, has the limitation that the representative signal "has only the portions of the video and audio signals that have changed". As is clear from the above description of Jones, there is no teaching or suggestion in Jones of this limitation. At best, Jones teaches that by determining which portions of the digital image signal represent regions of the computer display image which have changed, the subsequent compression steps of the process

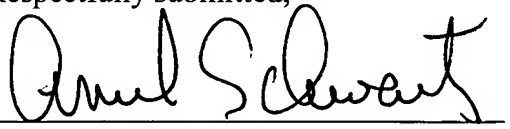
are rendered more efficient. More of the compressed image signal may be allocated to those portions of the digital image signal which represent change regions into those portions of a digital image signal which are static. See column 9, lines 60-67. Accordingly, amended Claim 21 of applicant is patentable over Jones.

Claim 22 is patentable for the reasons Claim 21 is patentable.

Claims 23-27 are dependent to parent Claim 22 and are patentable for the reasons Claim 22 is patentable.

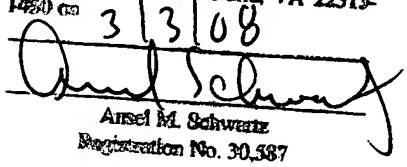
In view of the foregoing amendments and remarks, it is respectfully requested that the outstanding rejections and objections to this application be reconsidered and withdrawn, and Claims 21-28, now in this application be allowed.

Respectfully submitted,



Ansel M.. Schwartz
Reg. No. 30,587
201 N. Craig Street, Suite 304
Pittsburgh, PA 15213
Tel.: (412) 621-9222

CERTIFICATE OF MAILING
I hereby certify that this correspondence is being deposited with the U.S. Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on 3/3/08



Ansel M. Schwartz
Registration No. 30,587